What is claimed is:

1. An optical switching system, comprising:

a signal input unit operable to input an optical packet signal that includes an optical label signal converted by a direct modulation method from an electric label signal that has a frequency that corresponds to a destination of the optical packet signal;

an optical-to-electrical conversion unit operable to convert the optical packet signal, which has passed through an optical filter that allows only signals with wavelengths within a predetermined range to pass through itself, into an electric signal;

an extracting unit operable to extract the electric label signal from the electric signal;

an electric power level detecting unit operable to detect an electric power level of the extracted electric label signal;

a port determining unit operable to determine, based on the detected electric power level, a port to which the optical packet signal is to be output; and

a signal output unit operable to output the optical packet signal to the determined port.

2. An optical switching system, comprising:

a signal input unit operable to input an optical packet signal that includes an optical label signal generated by phase-modulating an optical signal based on an electric label signal that has a frequency that corresponds to a destination

of the optical packet signal;

an optical-to-electrical conversion unit operable to convert the optical packet signal, which has passed through an optical filter that allows only signals with wavelengths within a predetermined range to pass through itself, into an electric signal;

an extracting unit operable to extract the electric label signal from the electric signal;

an electric power level detecting unit operable to detect an electric power level of the extracted electric label signal;

a port determining unit operable to determine, based on the detected electric power level, a port to which the optical packet signal is to be output; and

a signal output unit operable to output the optical packet signal to the determined port.

3. The optical switching system of Claim 1, wherein the electric label signal has a sinusoidal waveform.